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(54) CRYSTALLIZED GLASS FOR RESTORING DEFICIENCY IN DENTIN OR TOOTH AND ITS PRODUCTION

(57)Abstract:

PURPOSE: To obtain the subject crystallized glass, useful for restoring a deficiency in the dentin or tooth and capable of providing a restoration with a high accuracy due to its high mechanical strength, cutting properties (workability) and further excellent chemical durability, biocompatibility, aesthetic properties and moldability according to a casting method.

CONSTITUTION: The objective crystallized glass for restoring a deficiency in the dentin or tooth has a composition within the ranges of 50-65wt.% SiO₂, 3-11wt.% MgO, 8-17wt.% MgF₂, 10-18wt.% K₂O and 2.5-15wt.% ZrO₂ and is obtained by mainly depositing a fluorotetrasilicic mica crystal phase. This crystallized glass has the effects and can be produced by melting oxides and fluorides of the composition as starting materials, forming the resultant melt together with amorphous glass into the same shape as that of the prescribed deficient part in the dentin or tooth, heat-treating the glass and depositing 60-80wt.% fluorotetrasilicic mica crystal phase having 1-2.0±0.5µm average particle diameter in the glass matrix phase.